AMENDMENTS TO THE SPECIFICATION:

Please amend Paragraph Nos. [0033] and [0038] as indicated:

[0033] Film growth can be initiated using a transition metal chemical T_1 and another transition metal chemical T_2. In one exemplary implementation, T_1 and T_2 can be applied such that T_1 is added from cycles n=1 through n=x and T_2 is added from cycles n=x+1 through the last cycle. The transition metal chemicals T_1 and T_2 can also be applied in alternating cycles, such as when T_1 is applied during even-numbered cycles (n=2,4,6,...) and T_2 is applied during odd-numbered cycles (n=1,3,5,...). Transition metal halides can be introduced in alternating cycles between 1 and 10,000 times. The ratio of the cycles of different transition metal chemicals can be tailored in many different ways. One exemplary pulsing composition of the CTM film in accordance with this alternative embodiment can be characterized as, for example:

$$X^* (n_1*T_1+n_2*T_2+n_3*T_3)$$

where n_1 is the number of subsequent cycles with transition metal chemical T_1; n_2 is the number of subsequent cycles with transition metal chemical T_2; n_3 is the number of subsequent cycles with transition metal chemical T_3; and X is a multiplier for the cycle sequence in the parenthesis. The resulting CTM film may include several transition metals as well as carbon and may form, for example, an essential ternary carbide in instances when two different transition metal chemicals are used, or an essentially quaternary carbide when three different transition metal chemicals are used. The ability to tailor the composition of the CTM film enables the user to finely adjust the electrical and chemical properties of the resulting thin film. The ratio of n_1:n_2 preferably ranges from between about 50:1 to about 1:50.

[0038] In a preferred embodiment, a film of titanium carbide (TiC), zirconium carbide (ZrC), tantalum carbide (TaC), or hafnium carbide (HfC) is deposited by placing the substrate inside a reactor operating at a pressure between about 0.1 mbar and about 5 mbars and a temperature between about 250°C and about 550°C. The CTM film is generated by first introducing a transition metal chemical vapor, perferably titanium tetrachloride ($TiCl_4$), zirconium tetrachloride ($ZrCl_4$), tantalum pentachloride ($TaCl_5$), or hafnium tetrachloride ($HfCl_4$), into the reaction space in which the substrate has been placed. Following introduction of the transition metal chemical, an adsorbed layer of a portion of whichever chemical was used exists on at least one surface of the substrate. The reaction space is then purged with N_2 gas to remove the excess halide chemical. Next, TMA vapor is introduced into the reaction space, where it reacts with the adsorbed layer to a form a CTM film. The reaction space is then purged with an inert gas. To increase the thickness of the CTM film, this cycle may be repeated between about 1 and 5,000 times, or between 1 and 10,000 times, depending on the desired film thickness. The growth rate of the TiC, ZrC, TaC, or HfC film is between about 0.03 nm to about 0.5 nm per cycle.